ALL INDIA INDUCTION FURNACES ASSOCIATION

AIIFA

INDUCTION FURNACE NEWSLETTER

Vol. No. XVI
Issue No. 5
May, 2017

What's Inside

AIIFA SECRETARIAT:

504, Pearls Omaxe, Tower-1, Netaji Subhash Place, Pitampura,
Delhi-110034 INDIA

Tel: 011-2735 1346/1347

Mobile : 9810410186

Email: aaiifa6@gmail.com

Website: www.aiifa.org

Facebook A/c:
aiifa1987 or 9810410186

twitter A/c :
aiifa1987@gmail.com

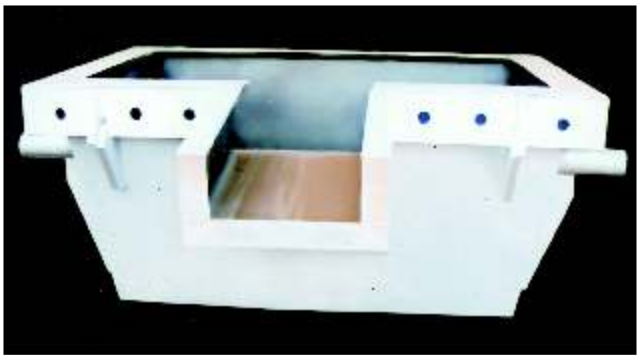
DUTTASON ENGINEERS

CONSULTING ENGINEERS & STEEL FABRICATORS

G. T. ROAD, DHANDARI KHURD, LUDHIANA - 141 010 (INDIA)
Ph.: (O) 0161-2510714, 2510715 Fax. : 91-161-2510716
E-mail : duttason_ers@hotmail.com ; dutason@dataone.in
Website : www.duttason.com

ISO 9001

Ladle



Tundish for Continuous Caster

Charging Bucket

Ladle Preheater

Ladle

Leading Manufacturer and Exporter of Ladles for Steel Plants & Foundries (Lip Pouring & Bottom Pouring), Tundish for Continuous Casters, Ladle Pre-Heaters (Vertical & Horizontal) Scrap Charging Buckets (Multi Leaves & Clam-Shell Type), Water Cooled Panels (Tubular & Plate Type) Water Cooled Roof for L.R. Furnaces, Fume Extraction Systems, Fabricated Sheet Metal Components, Machinery Parts, All types of Fabrications in Mild Steel, Stainless Steel & Aluminum.

SHRADHA THERMO TIPS

Our Speciality In Steel Plant

THERMO TIPS MINI

THERMO TIPS MARK-III

THERMO SAFE TIPS

LARGE DISPLAY UNIT

THERMO TIPS MARK-VII

THERMO TIPS REUSABLE MINI

THERMO TIPS BMD

SHRADHA GROUP

A Pradeep Thakur Venture

PETROLEUM | THERMO SENSORS | CONSTRUCTION | FOUNDRY | WAREHOUSE

SHRADHA THERMO SENSORS
Gat No. 95, Alandi-Markal Road, A/p Solu, Taluka Khed, Dist. Pune – 412 105
Email: shradhathermosensors@gmail.com, instrument@shradhagroup.com
purchase@shradhagroup.com, account@shradhagroup.com
Mobile: 9623555655, 9822883536

www. shraddhagroup.com www.shradhathermosensors.com

EROS ENVIROTECH PRIVATE LTD.

(Formerly Eros Consultant)

Air & Water Pollution Control Systems

RANGE OF POLLUTION CONTROL SYSTEMS FOR STEEL & CASTING INDUSTRY

FOR INDUCTION FURNACES		FOR STEEL ROLLING MILLS	
			
BAG HOUSE BASED	SCRUBBER BASED	FOR COAL FIRED	FOR OIL FIRED

Other useful products and solutions from eros include:

- ✓ Centrifeugal Fans
- ✓ Pulse Pleat Based Mini Bag Houses
- ✓ Water Cooled Heat Exchangers
- ✓ Air Lock Rotary Valves
- ✓ Heat Recovery Systems
- ✓ Sand Reclamation Systems
- ✓ Effluent Treatment Plants
- ✓ Sewage Treatment Plants

Registered Office
109-110, Ist Floor, Savitri Complex-1, Data Motors Building Kalsi Nagar,
G.T. Road, Ludhiana-3, Punjab (INDIA) Telefax : +91-161-2542109/2542110
Contract for Trade Enquiry :
RAJESH MAHESHWARI, Managing Director,
Mob.: 98141-01638,
Email: maheshwarieros@gmail.com
Works : Sidhwan Bet Road, VPO Hambran, Ludhiana, Punjab (INDIA)

Website: www.erosenvirotech.com E-mail: info@erosenvirotech.com, sales@erosenvirotech.com

Production of Common Low Alloy Construction Steels in Induction Furnace

Srikumar Chakraborty
Metallurgical Consultant
Email : srichakraborty41@rediffmail.com

Introduction: Indian mini steel plants have established themselves as globally competitive producers of alloy & special steels on quality, cost and service. Among all the classified grade groups, e.g. Carbon Constructional, Alloy Constructional, Ball Bearing, Spring Steel, Free Cutting Steel, Stainless & Heat Resisting Steel, Alloy Tool & Die Steel, Die Block Steel, mini steel plants produce alloy constructional steel grades from induction furnace in bulk quantities for different consuming sectors which constitute about 50% of total alloy steel production in the country. In this grade group, the most common alloy steels produced by Indian mini steel plants are having one or more of the three elements chromium, molybdenum, or nickel added, and these steel grades are referred to as the low-alloy which are used by consuming sectors like automobile & auto-component and various other engineering & manufacturing industries in bulk quantities. Global demand for cleaner steels particularly in alloy construction grades is increasing day by day due to changing pattern in the requirements of customers for quality with low level of non-metallic oxide inclusions, controlled morphology and low level of other impurities e.g. S,P,H,N and trace elements like As, Sn, Sb, Se, Cu, Pb, and Bi.

Product Classification & Common Grade Produced by IFs: **Steel produced in induction furnace, processed through** rolling/ forging and casting units in the country, contributes over 65% of the country's finished steel products. Out of total capacity of alloy & special steel production from induction furnace in the country of about 370,00,000 tonnes, current level of production is about 283,00,000 tonnes (76.5%) and location-wise & region-wise capacity out of 1300 nos IFs are Eest - 365nos (29.2%), West – 258nos (20.2%), North – 353 nos (28.7%) & South – 272 nos (21.9%). The popular and most common grades produced through induction furnace in bulk quantities are shown below:

1. **Carbon construction**: C40,C45,C50, C35Mn75 etc.
2. **Alloy Construction**: **T**hese grade group contains Mn, Ni, Cr, Mo etc. Common steel grades, having wider usage in this grade group are Low-carbon Mn-Cr e.g.16/20MnCr5, Low carbon Cr-Mo e.g. 20MoCr4/ 20CrMo4 and Low carbon Ni-Cr-Mo e.g. 20NiCrMo6/18NiMo7/ 17NiCrMo6/ 14NiCrMo13. En353, AISI 8620/ En100 series, Medium carbon - Low Cr-Mo e.g. AISI 4130/35/40/50/ En 19 series, Low Cr-Mo-Ni e.g. 4340/ En24/25 etc., Medium carbon Low Cr e.g. AISI 5140/50/55/ En18 series etc. (low carbon low alloy steels are termed as case gardening grades).
3. **Spring Steel**: Medium & High carbon Cr-V e.g. AISI6150, Si-Mn e.g AISI9255/60.
4. **Ball Bearing Steel: AISI52100/ En31.**
5. **Tool steels:** Next to alloy construction grade, volume of production of tool & die steel is the second highest in IF which acquire hardness, wear resistance retaining strength and toughness with high harden ability and ability to resist the tempering effects of use in hot working dies and from frictional heating in high speed machining operations. Alloying elements Cr, W, Mo and V are strong carbide formers and also stabilize ferrite and marten site. In this group, common grades produced in IF are dimensionally stable tool steels e.g. D2/D3 etc., hot work tool steels e.g. H11/ 12/13/20/21, shock resistance tool steel e.g. S1, cold work tool steel e.g. 120W4/W210CW2/CW3 etc. High Speed Steel as W or Mo base are also produced in few mini steel plants from induction furnace in a very limited ways.
6. **Die block steel** : DIN 55NiCrMoV6, 56NiCrMoV7, 40CrMnMo7, DB5/6.

Among the stainless steel grades of 200, 300 % 400 series, IF units, normally, produce 400 series stainless steels of type martensitic and ferritic in AISI 403/410/416/420/430/431/440B&C as forgings, bars or slab/flats The addition of more than about 12% Cr renders steel as 'stainless' or corrosion resistant because of a passive layer of Cr_2O_3 on the surface. Steels containing large amounts of Cr are ferritic, as Cr is a ferrite stabiliser. **Ferrite group** stainless steel grades contain 11.2% to 19% Cr and less than 0.1% carbon but with no, or a very small, addition of Ni, the most expensive alloying element, which experiences high price volatility. Mo is added to some grades for improving pitting corrosion resistance, while alloying with niobium and/or titanium improves weldability. The ferritic grades are magnetic due to their ferritic microstructure. **Martensitic** group 12% to 25% Cr and 0.1% to 1.5%C, being the smallest group in stainless family having higher C content, is popular for properties like high strength, high wear resistance, limited corrosion resistance and magnetic properties. **Austenitic stainless steel groups are produced in very lesser quantities in induction furnace except in specific order by proper selection of raw materials.**

Consuming Sectors of Alloy Constructional Steel: Mini steel plants serve virtually every major industrial sectors like Rlys, Automobile & Auto-component mfg. industries including Aerospace, Construction, Mining, Chemical/ petr-chemical processing, Oil and Gas drilling, Ore/ Coal mining, Thermal power, Electrical energy, Medical, Defense, Electronics, Transportation services etc. Alloys steels containing Cr, Mo, Ni in low or medium carbon are the most important to the Automotive industry. The additions of the elements do not materially change the nature of the metallographic constituents, but exert influence on the physical properties largely by altering the rate of structural change. The addition of a small percentage of alloying elements under consideration makes it possible to retard the transformation more effectively and hence to produce better physical properties achieved by heat-treatment.

Production Process: Alloy constructional steel grades are produced in IF by melting steel scrap, sponge iron, other scrap substitutes, ferro-alloys. Most of the units have installed vacuum degassing unit to produce quality steel needed in various sectors. During degassing in vacuum chamber, inert gas argon is purged in the ladle from bottom to remove the reactive gases like H, N, O and P, which negatively affect the steel's performance characteristics. This degassing process, normally, lasts for approx 10-15 minutes depending upon the rate of temperature drop from calculated super heat taken in liquid steel at a vacuum pressure below 2.0 torr. Under this vacuum level, the dissolved gases in liquid steel H,N,O,CO and inclusions are removed maintaining uniformity of temperature.

After treatment, gas reduction is possible to the extent of H≤ 2ppm, N ≤20ppm, O≤15ppm. However, few units have started using ladle refining furnace to produce clean and ultra-clean steel to lower S (%) to the level ≤ 0.010. Some units have installed electro slag refining (ESR) unit to produce ultra/super clean steel, suitable for application in aero-space and few other specific areas. For improving productivity and quality reducing cost, few mini steel plants having IF units have installed continuous casting to cast liquid steel as billets for rolling re-bars (mostly TMT bar products). The structure of concast billets is similar to that of ingots, therefore, products obtained from continuous casting are regarded as semi-finished products according to their shape and dimensions. Ingots are either rolled or forged, concast billets are, generally, intended for conversion into finished products by rolling, re-rolling or forging or stamping in various shapes. Few units have installed AOD which alters the operating atmosphere and its pressure to permit the removal of impurities, while protecting the molten steel from recombining with either contaminant gases or residual solids.

Grade Classification & Selection of Alloy Construction Steel: Normally, most of the IF units follow technical standards stated in the AISI/DIN/JIS/SUS or their equivalent/ nearest grades to produce steel. Alloy construction steel grades are

grouped into three major types depending upon the added alloys e.g. **Mo-steels (4xxx), Cr steels (5xxx)**, **Cr-Mo steels (41xx)** and **Triple-alloyed steels (8xxx).** Though carbon is the base element influencing the structure of alloy steel but addition of different alloying elements help in achieving desired microstructure and properties at much wider range. In all the grades, the last two digits represent % C. However, the second digit, sometimes, varies in an irregular fashion but carbon, in all the grades, is considered as the base element influencing the structure. The alloying elements Cr, Mo, Mn,Ni, Si, B, V, Nb etc added in alloy constructional steels act in several ways e.g. strengthening of solid solution, precipitation hardening and desired physical property or characteristic. Heat treated products in this grade group provide high strength, high yield point, combined with appreciable ductility both in small and large sections even resisting corrosion and oxidation at elevated temperatures to some extent. As a guideline, alloying elements are added in lower percentages (less than 5%) to increase strength or harden ability, or in larger percentages (over 5%) to achieve special properties, such as corrosion resistance or extreme temperature stability

Varying range of mechanical properties are achieved by different process of heat treatment e.g. softness and good ductility may be required during fabrication of the product and very high strength during its service life. These are obtainable in the same material with degree of softening after annealing by heating the products to slightly above the critical temperature of steel (723 degrees Centigrade), holding and allowing it to cool down very slowly at proper rate depending on the chemical composition. However, all the properties are linked to the chemical composition, heat treatment process route. For a particular steel composition, most properties depend on microstructure considered as sensitive property. The forging, rolling, heat treatment processes develop and control micro-structure.

Role & Effects of Alloying Element Addition: In the steel melting shop, Mn, Si or Al are added in the furnace to remove dissolved oxygen, sulfur and phosphorus in the melt. To increase strength at product state, Mn, Si, Ni, and Cu are added in the melt which form solid solutions in ferrite. The elements Cr, V, Mo. and W increase strength by forming second-phase carbides. Ni and Cu improve corrosion resistance by addition in small quantities. Mo helps to resist embrittlement. Zr, Ce and Ca increase toughness by controlling the shape and inclusions morphology. S in the form of MnS, Se, and Te improve machinability of products. The alloying elements tend to form either solid solutions or compounds or carbides. W and Mo form carbides if there is enough carbon. V, Ti, Nb are strong carbide forming elements. Alloying elements also have an effect on the eutectoid temperature of the steel. Mn and Ni lower the eutectoid temperature and are known as *austenite stabilizing elements and austenite structure is obtained at room temperature with* enough of these elements. Carbide-forming elements known as ferrite stabilizing elements raise the eutectoid temperature. Carbide Former – Cr,W,Ti,Cb,V.Mo & Mn, the mixture of complex carbides is referred to as cementite.

1. *Elements which tend to graphitise the carbide* - Silicon, cobalt, aluminium and nickel. Only a small proportion of these elements can be added to the steel before graphite forms during processing, without sacrificing properties of the steel, unless elements from group 1 are added to counteract the effect.
2. Austenite Stabiliser – Mn, Ni, Co and Cu.
3. Ferrite Stabiliser- Cr, W, Mo,V,Si.

Common Test for Checking Quality : In mini steel plants, products are ultra-sonically tested to find any discontinuities in the products e.g. seam, crack, burst, pipe, inclusion, coarse grain etc. A short pulse of ultrasound is generated by means of an electric charge applied to a piezoelectric crystal, which vibrates for a very short period at a frequency related to the thickness of the crystal. This pulse takes a finite time to travel through the material to the interface and to be reflected back to the probe. The product defects should be analyzed and assessed to find the root cause of the problem whether those coming from melt shop area or shaping operations accordingly corrective action to be initiated and implemented to prevent its recurrence. US tester, many times, failed to take correct decision as some defect signals may not be alarming and can be accepted judging end use applications.

Impurities in ferroalloys may affect steel quality to some extent as most of them are having a high content of the major component, typically in range of 50-90 %, the rest being mostly iron (Fe) and more or less "residues" of reductants used in ferroalloy production. **Sulfur** is impurity in steel that cannot be economically removed which forms a compound with iron, iron sulfide (FeS) and molten at the hot rolling or forging temperatures of steel. The molten FeS wets the austenite grain boundaries leading to brittle grain boundary fracture – hot shortness during forging or rolling. Mn addition forms MnS replacing FeS overcomes this problem. However, small MnS stringers, a type of inclusion is seen in the steel. They have little effect on the toughness of the steel for deformation in its longitudinal direction (the direction of the stringers) but can dramatically reduce toughness for deformation in the transverse direction, that is, deformation at right angles to the stringers. However, controls in process may help in achieving product quality.

1. Dendritic ingot structure at the interior of forging is not broken due to insufficient penetration as actual forging, particularly in hammer, takes place only at the surface. In such cases, press forging is the better option.
2. Too low forging temperature and excessive hammering on the surface may cause penetration of crack on inner portion which can be reduced increasing flash thickness or relocating flash and finally stress relieving after forging.
3. Folding on the surface, under/ over filling during forging should be avoided by proper forging technique using proper die.
4. Proper heating, soaking the stock using correct forging temperature and removing dropped scale from die will help in giving correct output.
5. Flakes, mostly in flake sensitive grades, are basically internal ruptures. Secondary refining of liquid steel in vacuum lowers the detrimental gases, still improper cooling may cause internal ruptures as rapid cooling causes the exterior to cool quickly causing internal fractures. Proper cooling or anti-flake cycle treatment eliminates this problem. (International Journal of Scientific and Research Publications, Volume 4, Issue 6, June 2014 -15 ISSN 2250-3153 www.ijsrp.org 9).
6. Improper grain flow may be seen due to improper die design and improper flow of material.
7. Slow cooling of the forging in a furnace or under ash/ mica cover over a period of time reduces the possibility of internal discontinuities.

Conclusion: Heavy churning of liquid steel during IF operation helps to float most of the inclusions and other trace elements which are accumulated in the slag. Further, the secondary refining like VD & LRF help the induction furnace units to produce clean and ultra-clean steel with improved properties. There is enough scope and challenges to come up in a big way to produce highly critical grade steel, creep resistance steel, high temperature & various critical grade steel which are mostly imported. Mini steel plants should serve their customers and dealers satisfying them with quality products in most competitive ways. Since most of their products reach to customers through dealers, units should jointly work and frame out the strategy to produce almost all the alloy steel products or value added items from such products matching quality and cost with imported materials within the capability and product range of individual producers. However, quality problems observed at customer end may also generate at the customer end or such problems may not finally affect or harmful because of application of products in specified areas. Such issues are to be discussed in proper ways to sort out.

References: 1. News Letter, AIIFA Vol.No.XV, Issue No.8, Aug, 2016, Steel Orbis, Market Intelligence Report, 2. ASM/Hand Book, 3. Observation in Mini Steel Plant/ Professional US Tester (level-II),4. (International Journal of Scientific and Research Publications, Volume 4, Issue 6, ISSN 2250-3153 www.ijsrp.org 9). 5. Inclusion Control , Dr Zhang, Ohio Univ.

[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

GOVERNMENT OF INDIA MINISTRY OF FINANCE (DEPARTMENT OF REVENUE)

NOTIFICATION

New Delhi, the 13th April, 2017-05-09

No. 10/2017-Central Excise (N.T.),

G.S.R. ---(E).- In exercise of the powers conferred by section 37 of the Central Excise Act, 1944 (1 If 1944) and section 94 of the Finance Act, 1994 (32 of 1994), the Central Government hereby makes the following rules further to amend the CENVAT Credit Rules, 2004, namely:-

1. (1) These rules may be called the CENVAT Credit (Second Amendment) Rules, 2017.

(2) They shall come into force on the 23rd day of April, 2017.

2. In the CENVAT Credit Rules, 2004,-

(1) in rule 2, in clause *(l)*, for the words starting with "input service" means' and ending with "clearance of final products upto the place of removal," following shall be substituted, namely,- "input service" means,-

(i) Services provided or agreed to be provided by a person located in non-taxable territory to a person located in non-taxable territory by way of transportation of goods by a vessel from a place outside India up to the customs station of clearance in India where service tax is paid by the manufacturer or the provider of output service being importer of goods as the person liable for paying service tax for the said taxable services and the said imported goods are his inputs or capital goods; or

(ii) any service used by a provider of output service for providing an output services; or

(iii) any service use by a manufacturer, whether directly or indirectly, in or in relation to the manufacture of final products and clearance of final products upto the place of removal,';

(2) in rule 4, in sub-rule (7), after the second proviso, following shall be inserted namely,-

"Provided also that in respect of services provided or agreed to be provided by a person located in non-taxable territory to a person located in non-taxable territory by way of transportation of goods by a vessel from a place outside India up to the customs station of clearance in India where service tax is paid by the manufacturer or the provider of output service being importer of goods as the person liable for paying service tax for the said taxable services, credit of service tax paid by the person liable for paying service tax shall be allowed after such service tax is paid:";

(3) in rule 9, in sub-rule (1), after clause (e), following shall be inserted, namely,-

"(ea) a challan evidencing payment of service tax by the manufacturer or the provider of output service being importer of goods as the person liable for paying service tax for the services provided or agreed to be provided by a person located in non-taxable territory to a person located in non-taxable territory by way of transportation of goods by a vessel from a place outside India up to the customs of clearance in India;

[F.No. 354/42/2016-TRU]

(Mohit Tewari)

Under Secretary to the Government of India

Note.- The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-Section (i), vide notification No. 23/2004 – Central Excise (N.T.) dated the 10th September, 2004 vide number G.S.R. 600(E), dated the 10th September, 2004 and last amended vide notification No. 4/2017 – Central Excise (N.T.) dated 2nd February, 2017 published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide number G.S.R. 98 (E), dated the 2nd February, 2017.

STEEL SECTOR NEWS

Cabinet has approved the National Steel Policy, which seeks to outline a roadmap to increase the country's annual steel production to 300 million tonnes by 2025.

HIGHLIGHTS OF THE NATIONAL STEEL POLICY-2017

1. The policy seeks to accomplish PM's vision of 'Make in India' with objective of nation building and encourage domestic manufacturing.
2. "All government tenders will give preference to domestically manufactured iron and steel products. The policy is applicable on all government tenders where price bid is yet to be opened.
3. Indian steel makers who import raw materials or intermediate products can claim the benefits of the domestic procurement provision if they add a minimum of 15% value to the product. . In order to provide flexibility, Ministry of Steel may review specified steel products and the minimum value addition criterion.
4. The policy has a waiver for specific kinds of steel not manufactured in the country, or where domestic makers can't meet the quality standards required by a project.
5. The National Steel Policy 2017 aims to make India self-sufficient in steel production. It projects crude steel capacity of 300 million tonnes (mt), production of 255mt and per capita consumption of 158kg of finished steel by 2030-31, as against the current consumption of 61kg.
6. The policy also envisages adequate local manufacturing to meet the demand for high-grade automotive steel, electrical steel, special steels and alloys for strategic applications by the same year.
7. In case any manufacturer is aggrieved, a grievance redressal committee setup under the Ministry of Steel shall dispose off the complaint in a time bound manner of four weeks.
8. While implementing the policy, it poses trust on each domestic manufacturer who shall provide self-certification to the procuring Government agency declaring that the iron & steel products are domestically manufactured in terms of the domestic value addition prescribed. It shall not normally be the responsibility of procuring agency to verify the correctness of the claim. In few cases, the onus of demonstrating the correctness of the same shall be on the bidder when asked to do so.
9. The policy is envisaged to promote growth and development of domestic steel Industry and reduce the inclination to use, low quality low cost imported steel in Government funded projects. It shall be the responsibility of every Government Agency to ensure implementation of the policy.

Successful completion of two days Technical Seminar on Iron & Steel Industry at Kolkata

Under the guidance of Ministry of steel, Government of India; **KATM** along with **NISST & CGCRI** successfully organized a two days Technical Seminar on Make in Steel for Make in India on 27 & 28 April at CGCRI Kolkata. It was focused on technologies at various stages and Latest developments in refractories for Iron & Steel Plants and Development. A large number of officials engaged working in various aspects i.e. technical steel making in the plants attended the seminar.

The Seminar was inaugurated by Mr. Sushim Banerjee, DG INSDAG.

Speaking at the inaugural session of the Seminar, Mr. RK Bagchi, Director NISST; Dr. K Muraleedharan, Director CSIR-CGCRI and Mr. Amit Kumar, CEO, KATM presented paper on Seminar. Keynote addressed by the experts from NISST Mr. Vishav Bandhu and Mr. Paramjeet Singh also made presentations on the topic and interacted with the participants.

There were five Technical Sessions divided in two days comprised Raw Material for Iron & Steel ; Iron Making; Steel Making; Energy Audit, Environment and R&D; Direct Rolling and Energy Efficiency in Secondary Steel sector. Speakers from across industry presented their paper and made the seminar interactive and industry oriented.

Source: KATM

Domestic steel production to remain high in 2017-18

Domestic steel production is expected to remain high in the current year 2017-18 and is likely to rise by around 8-10%, an industry research report by CARE Ratings has said. However, steel prices may rise going forward as steel producers are expected to face increased cost pressure due to supply disruption and a steep surge in coking coal prices on account of Cyclone Debbie in Australia. The latter accounts for around 70% of India's coking coal requirements that are fulfilled through imports.

Sharing its outlook for steel industry in the current year, the latest report by the agency said government allocation for infrastructure in the union budget 2017-18 is expected to act as driver for construction and infrastructure in the country. Additionally, the National Steel Policy 2017 also aims to raise steel production the report pointed out.

A number of steps by the government are likely to increase domestic steel consumption and thereby production it said. It includes Pradhan Mantri Awas Yojana, Make in India campaign, encouraging use of Made in India steel for various projects and spending in areas like railways, roads and urban development. Domestic producers are also increasing steel producing capacities expecting an increase in demand for steel of account of several initiatives taken by the government.

Incidentally, India's crude steel production grew by 4-5.5% during financial years 2012-14 on year on year basis. It stood at 81.69 million tonne (mt) in 2013-14 and 81.69 mt in 2012-13, while output grew 8.9% to 988.98 mt in 2014-15. In 2015-16 it saw a subdued growth and went up marginally by 0.89% to 89.78 mt, before gaining momentum and rising 9.4% to 89.11 mt in April 2016-Feb 2017 as steel producers raised output backed by government's strong measures like Minimum Import Price to rein in cheaper imports.

Source: Economic Times

India's steel output grows 8.2% in March, beating world average

India's steel output grows 8.2% in March, beating world average

India's steel production grew 8.2% – highest among the major producing nations – in March to 9 million tonne (mt), while the world's average output grew 4.6% in March, data revealed by World Steel Association (WSA) showed. India's steel output also outpaced others during the first three months of the current year growing by a whopping 10.7% to 25.76 mt. Globally, steel production increased 5.7% during the same period to 410 mt.

With this, India is just a few tonnes away from Japan to become the second-largest steel producer in the world. Japan is now the second-largest producer of steel in the world followed by China. During the January-March period, China produced 201 mt steel.

In March, production of China grew 1.8%, same as Japan; while the production by US and Russia grew 3.4% and 1.4%, respectively. However, growth in production was better in China, US and Russia during the January-March period at 4.6%, 3.8% and 4.1%, respectively. Germany produced 3.9 mt steel in March, Italy at 2.2 mt and France 1.3 mt. Turkey's steel production for March this year was 3.1 mt, up 14% over the same month last year. Brazil's crude steel production during the month was higher by 13.7% at 2.9 mt. According to WSA, during the January-March period of the current year, Asia produced 280.6 mt steel, an increase of 5.4% over the first quarter of 2016.

The European Union produced 42.5 mt, up by 3.8%, and North America's output was 7.1% more compared to the first three months of the last fiscal year.

Source: Financial Express

Domestic consumption of steel to increase in infrastructure sector: Steel Ministry

The union steel ministry is betting big on an increase in domestic consumption of steel led by planned investments of nearly Rs 4 lakh crore in infrastructure sector.

While steel consumption increased by nearly 3 per cent, in 2016-17, the steel minister urged the industry to ensure that the rate of growth goes up to 4 per cent in the current year 2017-18.

With Rs 4 lakh crore of investments planned in infrastructure sector, there is a huge opportunity for increasing consumption, Chaudhary Birender Singh said. He was speaking at India Steel 2017 International Conference and Exhibition in Mumbai on Wednesday.World Steel Association has projected Indian steel demand to grow by 5.7 per cent in 2017. While globally steel demand has been projected to grow by 0.5 per cent in 2017. So demand in India will grow at 10 times the world levels in 2017, he add ..

The minister said the draft National Steel Policy, which is scheduled to be released soon, will give concrete shape to the vision and plans for the steel industry.

"For increasing consumption of steel, we have also conceptualized the idea of Indian-made steel. The Draft Cabinet Note has been finalized. The proposal, as you know, is to make it mandatory to use Indian-made steel in key projects," the minister added.

Singh said the steel ministry is far ahead of other Ministries in implementing quality standards. Around 75 per cent of steel products are already covered under quality norms. He also drew attention to three areas of key importance like raw material for steel making, demand generation for steel and Research & Development in steel sector. One of the major constraints that Indian steel industry faces is raw material availability and prices.

Source :Economic Times

दैनिक भास्कर

13 साल में ढाई गुना होगी स्टील उत्पादन क्षमता, 10 लाख करोड़ रुपए होगा निवेश

अभी 12.2 करोड़ टन है सालाना क्रूड स्टील उत्पादन की क्षमता

नई स्टील पॉलिसी में 2030 तक 30 करोड़ टन करने का लक्ष्य

एजेंसी | नई दिल्ली

कैबिनेट ने बुधवार को नई स्टील पॉलिसी को मंजूरी दे दी। इसमें 2030-31 तक क्रूड स्टील उत्पादन क्षमता बढ़ाकर 30 करोड़ टन करने का लक्ष्य है। इसके लिए 10 लाख करोड़ रुपए का नया निवेश होगा। स्टील मंत्रालय के मुताबिक 2015-16 में 12.2 करोड़ टन क्रूड स्टील उत्पादन की क्षमता थी। 2030 तक प्रति व्यक्ति सालाना स्टील खपत 160 किलो करने का भी लक्ष्य रखा गया है। 2015 में बड़ी अर्थव्यवस्थाओं में भारत एकमात्र देश था जहां स्टील की डिमांड बढ़ी थी। चीन में डिमांड 5.4% और जापान में 7% घट गई थी। विशेषज्ञों का कहना है कि घरेलू कंपनियों की बिक्री बढ़ाने के लिए देश में ही मांग बढ़ाने के उपाय करने पड़ेंगे। विश्व अर्थव्यवस्था में कमजोरी को देखते हुए निर्यात में संभावना नहीं है। इसके अलावा विश्व स्तर पर चीन का निर्यात पहले ही काफी ज्यादा और सस्ता है।

एनपीए से निपटने के लिए बैंकिंग एक्ट में संशोधन | वित्त मंत्री अरुण जेटली ने बताया कि कैबिनेट ने सरकारी बैंकों के एनपीए की समस्या से निपटने के लिए बैंकिंग रेगुलेशन एक्ट में कुछ संशोधन किए हैं। इसे अध्यादेश के जरिए लागू किया जाएगा। इसे राष्ट्रपति की मंजूरी के लिए भेजा गया है। जेटली ने यह नहीं बताया कि क्या संशोधन किए गए हैं। एसोचैम की स्टडी के मुताबिक बैंकों के करीब 12 लाख करोड़ रुपए के कर्ज फंसे हुए हैं। इसमें से करीब ढाई लाख करोड़ के एनपीए बैंकों ने एसेट रिकंस्ट्रक्शन कंपनियों को बेचे हैं।

खास बातें : ऑटो ग्रेड स्टील का बढ़ेगा उत्पादन

- कंपनियों को घरेलू कोकिंग कोल की सप्लाई बढ़ाई जाएगी, ताकि आयात कम हो। अभी जरूरत का 85% कोयला आयात होता है, इसे 2030-31 तक 65% किया जाएगा।
- स्टील मंत्रालय कम कीमत पर आयरन ओर, कोयला और प्राकृतिक गैस की उपलब्धता सुनिश्चित करेगा।
- ऑटोमोबाइल में इस्तेमाल होने वाले, इलेक्ट्रिकल और स्पेशल ग्रेड स्टील की डिमांड भी घरेलू कंपनियों से ही पूरी की जाएगी। अभी कंपनियां इनका आयात करती हैं।
- एमएसएमई स्टील कंपनियों में कम ऊर्जा खपत वाली तकनीक अपनाने को बढ़ावा दिया जाएगा। इससे उनकी उत्पादकता भी बढ़ेगी।
- रिसर्च को बढ़ावा देने के लिए मंत्रालय स्टील रिसर्च एंड टेक्नोलॉजी मिशन स्थापित करेगा।

प्रति व्यक्ति खपत 2.6 गुना बढ़ाने का लक्ष्य

2030-31 तक प्रति व्यक्ति सालाना स्टील खपत 160 किलो करने का लक्ष्य है। अभी यह 61 किलो है। विश्व औसत 209 किलो का है।

भारत तीसरा बड़ा स्टील उत्पादक, जीडीपी में 2% हिस्सेदारी

चीन और जापान के बाद भारत दुनिया का तीसरा सबसे बड़ा स्टील उत्पादक है। 2016-17 में यहां 10 करोड़ टन से ज्यादा स्टील प्रोडक्शन हुआ, जो 2015-16 में 8.97 करोड़ टन था। जीडीपी में इस सेक्टर का 2% है। इस सेक्टर में प्रत्यक्ष रूप से 5 लाख और परोक्ष रूप से 20 लाख लोग काम करते हैं।

सरकारी खरीद में देश में बने प्रोडक्ट को वरीयता

भारतीय कंपनियां देश में स्टील की डिमांड में कमी से जूझ रही हैं। इसलिए सरकारी खरीद में देश में बने प्रोडक्ट्स को वरीयता देने का फैसला हुआ है। यह फैसला उन टेंडरों पर भी लागू होगा जिनके बिड अभी खोले जाने हैं। कुछ खास ग्रेड के स्टील देश में नहीं या कम बनते हैं। उन मामलों में छूट रहेगी।

दैनिक भास्कर

केंद्र सरकार ने पांच देशों में 47 स्टील प्रोडक्ट्स पर लगाई एंटी डंपिंग ड्यूटी

चीन, जापान, कोरिया, रूस और इंडोनेशिया से आयात होने वाले प्रोडक्ट्स पर 5 साल के लिए लगी ड्यूटी

एजेंसी | नई दिल्ली

इन कंपनियों पर पड़ेगा असर

- दक्षिण कोरिया की हुंडई स्टील, पॉस्को और सैमसंग सीएंडटी।
- जापान की होंडा ट्रेडिंग कॉर्प, मित्सुई एंड कंपनी, उत्तम गाल्वा इंटरनेशनल, निप्पॉन स्टील, सुमितोमो कॉर्प, टोयोटा त्सुशो कॉर्प और मारुबेनी-इतोचु स्टील।
- चीन की जिंगसु शेंगांग, शिंशा इंटरनेशनल, बुरविल रिसोर्सेस, लू किन, जीएस ग्लोबल और स्टीलको पैसिफिका।

केंद्र सरकार ने पांच देशों से 47 स्टील प्रोडक्ट्स के आयात पर एंटी डम्पिंग ड्यूटी लगा दी है। इनमें चीन, जापान, कोरिया, रूस और इंडोनेशिया शामिल हैं। इसका उद्देश्य सस्ते आयात से घरेलू उद्योग को बचाना है। यह ड्यूटी जिन स्टील प्रोडक्ट्स पर लगाई गई है उनमें हॉट-रोल्ड फ्लैट प्रोडक्ट्स (शीट), जिंक कोटेड स्टील और क्लैड स्टील शामिल हैं। गुरुवार को जारी अधिसूचना के मुताबिक ड्यूटी 8 अगस्त 2016 से पांच साल के लिए प्रभावी होगी। यह 478-561 डॉलर प्रति टन के दायरे में लगाई गई है।

डायरेक्टरेट ऑफ एंटी-डम्पिंग और एलाइड ड्यूटीज (डीजीएडी) ने जांच में पाया था कि इन प्रोडक्ट्स को उनकी सामान्य कीमत से कम पर भारत में निर्यात किया जा रहा था। इससे घरेलू उद्योग को नुकसान हो रहा था। इसी को देखते हुए डीजीएडी ने इन प्रोडक्ट्स पर लगी एंटी-डम्पिंग ड्यूटी को जारी रखने की सिफारिश की थी। अधिसूचना के मुताबिक चीन, जापान, कोरिया, रूस और इंडोनेशिया से भारत को निर्यात होने वाले अलॉय स्टील या गैर-अलॉय स्टील के हॉट रोल्ड फ्लैट प्रोडक्ट्स पर ड्यूटी ली जा रही है।

शुरू में 6 माह के लिए थी ड्यूटी, फिर दो माह बढ़ाई

केंद्र सरकार ने स्टील प्रोडक्ट्स पर प्रोविजनल एंटी डम्पिंग ड्यूटी 8 अगस्त 2016 को छह माह के लिए लगाई थी। इसे फरवरी में दो माह के लिए बढ़ाया गया था। अब इसे पांच साल के लिए लागू करने का निर्णय लिया गया है।

इसके अलावा सरकार ने 17 अगस्त 2016 को चीन, जापान, दक्षिण कोरिया और यूक्रेन से आने वाले अलॉय या गैर-अलॉय स्टील के कोल्ड रोल्ड प्रोडक्ट्स पर ड्यूटी लगाई थी। इसे भी दो महीने के लिए विस्तार दिया गया था। अब हॉट रोल्ड प्रोडक्ट्स पर पांच साल के लिए यह ड्यूटी लगाई गई है। अधिसूचना के मुताबिक यह ड्यूटी भारतीय मुद्रा में अदा करनी होगी।

इकोनोमिक्स टाइम्स

इस्पात निर्माण लागत बढ़ी

8,000 रुपये प्रति टन तक हुआ लागत में इजाफा, मार्जिन पर दबाव की आशंका

दिलीप सत्पथी
भुवनेश्वर, 23 अप्रैल

लौह अयस्क और कोकिंग कोयले की कीमतों में ताजा तेजी की वजह से कुछ निजी खदानों के परिचालन कर रहे इस्पात उत्पादकों के लिए इस्पात निर्माण की लागत कम से कम 8,000 रुपये प्रति टन तक बढ़ गई है। इससे इस्पात उद्योगों के मार्जिन पर दबाव पड़ने की आशंका है क्योंकि वे धीमी मांग वाले परिदृश्य में अतिरिक्त लागत का बोझ ग्राहकों पर डालने में सक्षम नहीं हैं।

देश में इस्पात उद्योगों की 12.2 करोड़ टन की कुल क्षमता में से 70 प्रतिशत से अधिक क्षमता निजी खदानों के बूते है और ये इस्पात उत्पादक व्यावसायिक खदिकों से खरीदे जाने वाले लौह अयस्क पर निर्भर हैं। लौह अयस्क लंप्स (62.5 फीसदी एफई) की कीमत सितंबर 2016 के 1,744 रुपये प्रति टन से बढ़कर अप्रैल 2017 में 3,000 रुपये प्रति टन पर पहुंच गई है जो लगभग 72 प्रतिशत की वृद्धि है।

इसी तरह कोकिंग कोयले की एकओबी कीमत अप्रैल 2017 के दो सप्ताह की अवधि में 150 डॉलर प्रति टन से 100 प्रतिशत तक बढ़कर 300 डॉलर प्रति टन पर पहुंच गई है। वहीं सितंबर 2016 में यह कीमत 220 डॉलर प्रति टन पर थी।

लौह अयस्क कीमतों में तेजी आने से उन इस्पात उत्पादकों के लिए 2,000 रुपये प्रति टन का प्रभाव पड़ा है जो लौह अयस्क बाजार से खरीद रहे हैं। कोकिंग कोयले की कीमत में तेज वृद्धि से इस्पात की उत्पादन लागत में 6,000 रुपये प्रति टन तक का इजाफा हुआ है। कुल मिलाकर, इस्पात निर्माण की लागत 8,000 रुपये प्रति टन तक बढ़ गई है। दिलचस्प बात यह है कि घरेलू लौह अयस्क कीमत में ऐसे समय में तेजी का रुझान देखा जा रहा है जब लौह अयस्क की अंतरराष्ट्रीय कीमतें पिछले दो महीनों में 20 प्रतिशत तक घटी है। यह कीमत फरवरी के 93.75 डॉलर प्रति टन से घटकर अप्रैल में 74.65 डॉलर प्रति टन पर रह गई है।

बाजार से लौह अयस्क खरीदकर अपना संयंत्र चलाने वाले एक इस्पात उत्पादक ने कहा, 'कीमतों में इस तरह का अंतर (घरेलू लौह अयस्क की दर में तेजी जबकि अंतरराष्ट्रीय कीमतों में कमी) का कारण घरेलू इस्पात उद्योगों के लिए दीर्घावधि लिंकेज सुविधाओं को सुनिश्चित करने की व्यवस्था का अभाव होना है।'

इस्पात उत्पादन में 5.7 प्रतिशत की बढ़ोतरी का अनुमान

भारत का तैयार इस्पात उत्पादों का उत्पादन इस साल 5.7 प्रतिशत बढ़कर 8.86 करोड़ टन होने की उम्मीद है। वर्ल्ड स्टील एसोसिएशन के अनुसार भारत ने पिछले साल 8.35 करोड़ टन तैयार इस्पात उत्पादों का उत्पादन किया।

एसोसिएशन ने 2017 व 2018 के लिए परिदृश्य (एसआरओ) जारी किया है। बढ़ती अर्थव्यवस्था व बढ़ते शहरीकरण से इस्पात का उत्पादन बढ़ने की उम्मीद है। एसोसिएशन का कहना है कि 2018 में भी तैयार इस्पात उत्पादन बढ़कर 9.49 करोड़ टन होने का अनुमान है। तैयार इस्पात उत्पादों में ये उत्पाद आते हैं जिन्हें हॉट रोलिंग से या अर्ध-तैयार इस्पात को गढ़कर बनाया जाता है।

एसोसिएशन का कहना है कि चीन सहित उदीयमान व विकासशील देशों में इस्पात की मांग दुनिया की कुल इस्पात मांग का 30 प्रतिशत हिस्सा है। 2017 में इसमें चार प्रतिशत व 2018 में 4.9 प्रतिशत बढ़ोतरी का अनुमान है। भाषा

हार्दिक अभिनंदन .....

वंदन ... आभार.

SECONDARY STEEL SECTOR,
THE BACK BONE OF CHHATTISGARH ECONOMY

- 75+ Sponge & Integrated Steel Plant • 200+ Mini Steel Plant (Melting Furnaces)
- 180+ Re-Rolling Mills • 35+ Ferro Alloys Manufacturing Units.
- Biggest Consumer of CSPDCL (500 MW Per Day) • Total Employment above 1.25 Lacs.
- Total Existing Capacity above 8 Million Tons • Total Investment above ₹25,000 Crores.

अध्यक्ष : विकास अग्रवाल | महासचिव : मनीष धुपद | कोषाध्यक्ष : राजेश अग्रवाल

विनीत :

छत्तीसगढ़ मिनी स्टील प्लांट एसोसिएशन
एवं समस्त सदस्यगण, रायपुर (छत्तीसगढ़)

HI-TECH
PIPES LIMITED

Shaping Steel for Life

India's Leading Manufacturer of

- ERW BLACK & G.I. STEEL TUBES
- HOLLOW SECTIONS
- PRE-GALVANISED TUBES
- C.R. COIL

AN ISO 9001 : 2008 CERTIFIED COMPANY

Regd. Office - 505, Pearl Omaxe Tower Netaji Subhash Place, Pitampura, New Delhi - 110034
Tel : +91 - 11 - 48440050, Fax: +91 - 11 - 48440055

Works- Sikandrabad U.P. & Sanand, Ahmedabad

ISO 2001:2002 COMPANY
1239 : 2004
1161 : 2014
4923 : 1997
3589 : 2001

E-mail : info@hitechpipes.in **Website :** www.hitechpipes.in

RECTIPHASE

RECTIPHASE CAPACITORS

CAPACITORS FOR INDUCTION FURNACES

(Suitable for Electrotherm, Inductotherm, Megatherm, ABB, ABP, G.A. Danieli, GEC, Pillar, AJAX & all other brands of Induction Heating & Melting systems.)

TECHNICAL SPECIFICATIONS:

OUTPUT	:	Upto 8,400 kVAr.
VOLTAGE	:	Upto 4,000 Volts AC.
FREQUENCY	:	Upto 20,000 Hz.
TAPPINGS	:	Tapped / Untapped.
PHASE	:	Single Phase.
COOLING	:	Water Cooled.
MOUNTING	:	Horizontal / Vertical.
CASING	:	Aluminum / Brass.
CASE DESIGN	:	Isolated (Dead) / Live Case.
PROTECTION	:	Thermal & Over Pressure.
STANDARDS	:	IEC & EN:60110-1/2, ISS:9251

RECTIPHASE CAPACITORS

Marketing: A-16, Gool Mahal, 10-Sleater Road, Grant Road (W), Mumbai - 400 007, INDIA.
Telefax : (+91-22) 2381 9886 / 2597 4042. Mobile : (+91) 93222 29993 / 99207 14448
E-MAIL : sales@rectiphaseindia.com / powerthermsales@gmail.com
www.rectiphaseindia.com

... Enhancing the power of Induction !

SARU

Great Results. Ultimate Quality. Right Application.

Aluminium Melting Chemicals:
- Cover Fluxes
- Degassers
- Grain Refiners
- Magremover
- Modifiers
- Diecoats
- Coatings

Master Alloys:
- Aluminium Titanium Boron
- Aluminium Strontium
- Aluminium Titanium

Copper & Alloys, Zinc, Brass Chemicals:
- Cover Fluxes
- Zincover STD - for zinc
- Alremover
- Gasex (Loggas)
- Deoxidising Tubes
- Copprit - for Cu & Brass
- Copprex - for Cu & Brass

Steel Melting:
- Teeming Compound
- Exothermic Powders
- Antipiping Compound
- Mould Coatings

Foundry Solutions at every step

Our wide range of Fluxes includes for:
- Aluminium & Aluminium Alloys
- Zinc & Zinc Alloys
- Copper & Copper Alloys
- For Iron & Steel Foundries
- Iron & Steel, Dycotes, Coating

Foundry Additives and Chemicals for Ferrous & Non Ferrous Foundry

Registered Office & Works
SARU AIKOH CHEMICALS LIMITED
A-2 Industrial Estate,
Partapur Meerut, U.P. 250103. INDIA
Tel.: +91-121-2440641, 2440636 | Fax.: +91-121-2440644
E-mail: info@saruaikoh.com
Web: www.saruaikoh.com

Pune Office & Godown
SARU AIKOH CHEMICALS LIMITED
Gat No.116, Near Om Logistics,
Pune - nashik Highway, Chimbali, Pune - 410 501.
Mob. 08956139453, E.mail Id: saruaikoh@yahoo.com
sales.pune@saruaikoh.com

ISO 9001 : 2000 Quality Management System Cert. No. 1378

In Technical Collabration with M/s. AIKOH Co. Ltd. Japan

FLEXI HOSE™

DRIVING INNOVATION IN THE RUBBER HOSES INDUSTRY

CABLE COOLANT/ CARBON FREE HOSE

Two kinds of Protective Cover:

★ **Asbestos Cover** ★ **Fiberglass Cover.**

MAX. WORKING PRESSURE	17.2 BAR	14 BAR	10 BAR
HOSE I.D.	3/8", 1/2", 3/4",1", 1-1/4", 1-1/2"	2"	2-1/4", 2-1/2", 3", 4"

OTHER SIZES AVAILABLE

22 mm, 35 mm, 40 mm, 42 mm, 45 mm, 60 mm, 65 mm, 70 mm, 90 mm and other customized sizes also available.*

High Quality Synthetic Compound for Best Life

* Reinforcement Available:
- Braided Type
- Textile Fabric Type

Lengths Available		
	Upto 1"	: Upto 100 Mtrs.
	1-1/4"-2"	: Upto 40 Mtrs.
	Above 2"	: Upto 20 Mtrs.

VARDHMAN® HYDRAULIC HOSES PVT. LTD.

AN ISO 9001 : 2015 COMPANY

Regd. Office and Works

F - 621, Phase - 1, RIICO Industrial Area, Bhiwadi - 301 019, Rajasthan. INDIA.

Web : www.vardhmanrubber.in

For Dealership Enquiries, contact on +91-8094002350


IMMORTAL INFO
BRAND
STRATEGY
MANAGEMENT
UNIQUENESS
BILLBOARDS
TV
CREATIVITY
EXECUTION
PRESENTATIONS
BANNERS
BROCHURE
HOARDINGS
STATIONARIES
INTERNET
MEDIA
MESSAGE
AUDIENCE
YOUTUBE
FACEBOOK
PHOTOGRAPHY
OUTDOORS
TAGLINE
NAME
MARKETING
EXECUTION
ROADSHOWS
CORPORATE IDENTITY
LINKEDIN
PERSONAL TOUCH
AIR
GIFTING
LEAFLETS
TWITTER
DANGLERS
IMPRESSION
INFLUENCER
EVENTS
CALENDARS
YES!
BRAND DEVELOPMENT IS AS LIKE GLACIER FORMED IN OCEAN!!!
IT'S TIME TO GROW!
Partner with the "IMMORTALS"
Escalate your Brand & Market
Intrested in Brand Development? Contact us at anytime
Consulting is always free* for serious Brand Makers,
IMMORTAL INFO GROUP
108, Rajkamal Complex, A Block, Nr. C U Shah College,
Income Tax, Ashram Road, Ahmedabad -380014 (Gujarat, INDIA)
+91 88 66 474 004
info@immortalinfo.in

S.A.ALLOYS
SHREE SALASAR STEEL & TRADERS

S. A. ALLOYS PRIVATE LIMITED
SHREE SALASAR STEEL & TRADERS

(Deals in Ferrous & Non Ferrous Metals, Iron & Steel)

Our Product Range

- Ferro Manganese (Low Carbon)
- Ferro Silicon
- Ferro Manganese (High Carbon)
- Silico Manganese (High Carbon)
- Ferro Chrome
- Ferro Manganese (Medium Carbon)
- Silico Manganese (Medium Carbon)
- Ingots & Billets

Authorised Dealers of :-

• Maithan Alloys Ltd. • Anjaney Ferro Alloys Ltd.
• Castron Technologies Ltd. • Shivam Iron & Steel Co. Ltd.
• Singhal Energy Ltd. • Singhal Enterprises Ltd.
• Times Ferro Alloys Ltd.

Branches : Haryana, Rajasthan, Uttar Pradesh, Tamil Nadu, Delhi

Contact Person:-

Mr Ashwani Daruka - 9899112273
Mr Saket Daruka - 9811599912

Office: 2/103 , ASHISH COMPLEX , NEW RAJDHANI ENCLAVE , VIKAS MARG,
DELHI – 110092. Ph.22444286, 42440412, 43015650. Email : saalloyspvtltd@yahoo.co.in

Our USP : Consistent Quality & Timely Delivery ...

STEEL

STEEL & ENERGY

ARS ENERGY

ARS STEEL & ALLOY INTERNATIONAL PVT. LTD.

D-109, 2nd & 4th Floor, LBR Complex, Anna Nagar East, Chennai - 600 102.
Phone: 044-4560 6700, Fax: 044-4350 0597
Email: Power: sales.power@arsmetals.com
Steel: sales@arsmetals.co.in Website: www.arsgroup.in

FOR NEW AGE CONSTRUCTIONS

ARS LSP

500D

TMT BARS

NOTHING MATCHES THE PURITY & DUCTILITY

INDENTING HOUSE FOR IMPORTED SHREDDED STEEL SCRAP, HMS 1, HMS 1 / 2 & PNS.

Cellpap India Private Limited

302, Vishwa Nanak, ICT Link Road,

Chakala, Andheri (East), Mumbai – 400 099 (India)

Phone : 022-2838 1705 / 2838 1706 / 2838 1707

Fax : 022-28356650

E-mail : metals@cellpap.net

Website : www.cellpap.net

ELECTROTHERM®

"The most preferred Steel Plant maker up to 1 Million Ton / Annum"

Power Management with PDLM...

Electrical power is a raw material for steel making through induction furnaces. India still is a power deficit country. Programmable Dynamic Load Managers can help both steel makers and electricity boards to save and optimally manage power without compromising on productivity from the steel plants / foundries and revenues for the boards.

Hundreds of customers have been benefited by installing the PDLM in their plants in various ways...

- **More/improved production from same power**
- **Similar production from reduced power**
- **Flexibility of operation with variety of input power supplies like grid supply, captive power generation, open access supply etc.**
- **High load factor – load factor incentives**
- **Reliable and trouble free operation**

Advantages of PDLM

a) Tripping free power management
b) Complete plant load management that may comprise of a combination of any make of furnaces, furnace related auxiliary items, billet casters, continuous casting machines, pollution control systems, sponge iron plants, refining furnaces, rolling mills and mini-blast furnaces
c) Freedom from "peak-hour" penalties
d) Cyclic demand control with fixed kWh
e) Improved load factor (>90%)

PDLM ensures closest compliance with kVAH billing cycle thereby ensuring your electricity bills are the lowest.

ELECTROTHERM FURNACES
India's best; globally admired

ELECTROTHERM® (INDIA) LIMITED
72, PALODIA, (VIA THALTEJ) AHMEDABAD, GUJARAT- 382 115, INDIA
Phone: + 91 2717- 660 550, Email: mkt@electrotherm.com
Website: www.electrothermenp.com